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Oh Nam Kwon

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EXAMINER

RUDE, TIMOTHY L

ART UNIT

PAPER NUMBER

2871

MAIL DATE

DELIVERY MODE

08/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/788,420

Applicant(s)

KWON ET AL.

Examiner

Timothy L. Rude

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-27 is/are pending in the application.
- 4a) Of the above claim(s) 11-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 May 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claims and Claim Objections

Claim 1 is amended. Claim 27 is added.

Claim 1 is objected to because the newly added limitations as to “wherein the sixth conductive layer has substantially the same shape of the first contact hole and the second contact hole, respectively” is unclear for a number of reasons. 1) One layer cannot have the shape of two holes respectively. 2) No hole shapes have been specified. 3) Shape can be two-dimensional or three-dimensional.

For examination purposes, the newly added limitations will be considered to limit to a flat layer that has the same flat shape as the bottom of the contact hole(s) per APA Figure 1E as compared to Figure 3E.

Claim 27 is objected to because “wherein the first conductive layer and the third conductive layer are formed of a single metal layer” is unclear for a number of reasons. 1) Claim 1 is NOT a method claim. 2) Method steps in a device claim only limit in accord with their impact on structure. 3) Applicant has not provided the required proper reference as to where in the Specification support is found for these limitations. 4) The disclosure seems to teach entirely different layers for the first and third conductive layers wherein it would be impossible to read on claim 27. 5) Applicant repeatedly uses singular “layer” to reference a plurality of separate layers in plan view and/or separate layers in edge view.

Examiner recommends rewriting the claims to more clearly and distinctly claim all structural features.

Appropriate corrections are required.

Drawings

The drawings are objected to because important structural features are not numbered.

Figures 1D-1E, items 22, and 24 are each two-layered structures. Individual numbers should be given to each layer, per Figures 1A-1C, because the layered structure is the main focus of the instant Application. See Specification page 3, line 18, through page 4, line 4. Examiner considers the subject matter to be disclosed, but it should be made more clear with proper reference to the two-layered structures.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: "wherein the first conductive layer and the third conductive layer are formed of a single metal layer" is unclear for a number of reasons. 1) Claim 1 is NOT a method claim. 2) Method steps in a device claim only limit in accord with their impact on structure. 3) Applicant has not provided the required proper reference as to where in the Specification support is found for these limitations. 4) The disclosure seems to teach entirely different layers for the

first and third conductive layers wherein it would be impossible to read on claim 27. 5)
Applicant repeatedly uses singular limitation "layer" to reference a plurality of separate layers, both in plan view and in edge view.

For examination purposes, "wherein the first conductive layer and the third conductive layer are formed of a single metal layer" will be considered to modify the device of claim 1. However, because the first and third conductive layers are on different levels in edge view and in different locations in plan view, the limitations are considered to be met by the applied prior art that matches the disclosed structure of the claimed device.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's admitted prior art (APA).

As to claims 1 and 8-9, AAPA discloses a liquid crystal display (LCD) device (Fig. 1E) having a substrate (10), a first conductive layer (12 and 14) on the substrate, a first insulating layer (16) on the first conductive layer, a semiconductor layer (18) on the

first insulating layer, a second conductive layer (20) on the semiconductor layer, a third conductive layer, (22 and unlabeled layer below 24), on the second conductive layer, a second insulating layer (26) on the third conductive layer, the second insulating layer having a first contact hole exposing a portion of the third conductive layer (contact hole for pixel electrode) and a second contact hole (hole between 14 and 30) exposing the portion of the first conductive (layer) exposed by the first insulating layer, a fourth conductive layer (28) on the second insulating layer and electrically contacting the third conductive layer, and a fifth conductive layer (30) on the second insulating layer and electrically contacting the first conductive layer through the second contact hole; and a sixth conductive layer, (24 and unlabeled layer above 14), between and in contact with both the exposed portion of the third conductive layer and the fourth conductive layer and, (unlabeled layer above 14), between and in contact with both the first conductive layer (14) and the fifth conductive layer (30).

As to newly added limitations as to "wherein the sixth conductive layer has substantially the same shape of the first contact hole and the second contact hole, respectively", please note: 1) One layer cannot have the shape of two holes respectively. 2) Claim 1 has no hole shape limitation(s). 3) Shape can be two-dimensional or three-dimensional.

For examination purposes, the newly added limitations will be considered to limit to a flat layer that has the same flat shape as the bottom of the contact hole(s) per APA Figure 1E as compared to Figure 3E. This is considered inherent because the sixth

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conductive layer shares a boundary with said contact hole(s), and therefore inherently shares the exact same shape at that boundary.

As to claims 2-3, APA discloses an LCD device as recited above where the first conductive layer includes aluminum metal (Specification page 3, lines 1-4 and 18-23).

As to claim 4, APA discloses an LCD device as recited above where the second conductive layer (20) includes an impurity-doped semiconductor (Specification page 3, lines 4-7).

As to claims 5-6, APA discloses an LCD device as recited above where the third conductive layer has a first (22) and second (unlabeled layer below 24) parts that include metal and in between the first and second parts is where the semiconductor is etched (Specification page 3, lines 10-12 and page 4, lines 1-4).

As to claim 7, APA discloses an LCD device as recited above where the fourth conductive layer includes a transparent electrode (Specification page 3, lines 14-17).

As to claim 27, APA discloses the device [Applicant's method] according to claim 1, "wherein the first conductive layer and the third conductive layer are formed of a single metal layer".

Please note: 1) Claim 1 is NOT a method claim. 2) Method steps in a device claim only limit in accord with their impact on structure. 3) Applicant has not provided the required proper reference as to where in the Specification support is found for these limitations. 4) The disclosure seems to teach entirely different layers for the first and third conductive layers wherein it would be impossible to read on claim 27. 5) Applicant repeatedly uses singular limitation "layer" to reference a plurality of separate layers, both in plan view and in edge view.

For examination purposes, "wherein the first conductive layer and the third conductive layer are formed of a single metal layer" is fully considered to modify the device of claim 1. However, because the first and third conductive layers are on different levels in edge view and in different locations in plan view, the limitations are considered to be met by the device of APA that matches the disclosed structure of the claimed device. Please note, since Applicant's device has the first and third metal layers on separate locations in plan view and on separate levels in edge view that are very much the same as the device of APA that has the first and third metal layers on separate locations in plan view and on separate levels in edge view, APA is considered to anticipate the structural limitation of the claimed "single metal layer" (that happens to be in two separate locations in plan view and on separate levels in edge view).

Response to Arguments

Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Conclusion

Applicant's amendment necessitated any new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy L. Rude whose telephone number is (571) 272-2301. The examiner can normally be reached on Mon-Thurs.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



tlr

Timothy L Rude
Examiner
Art Unit 2871



ANDREW SCHECHTER
PRIMARY EXAMINER